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**June 10, 2008**

Administrator Nicole Nason  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue SE  
Washington, DC 20590

**RE: Petition for Rulemaking on Vehicle Classification**

Dear Administrator Nason,

Terrestrial transportation in America, as we know it, is changing rapidly. Everywhere in the world, the United States is seen as a beacon of judicious, visionary regulatory policy. As citizen and entrepreneur, I hope to assist my government in charting a future that maintains our leadership role in the regulatory realm.

In addition to the submission below, it is my duty and pleasure to offer your agency the benefit of my experiences and those of my colleagues to achieve that goal.

Whether the recent run-up in gas prices continues or not, is secondary. Our country (and the world) is in the midst of a dramatic change in how we perceive the role of transportation against the environmental backdrop.

I represent Porteon Electric Vehicles Inc., of Portland, OR, a start-up company created to tap what we believe to be an enormous world demand for an electric car. A decade ago, some of Porteon's key management and technical team debuted the GEM Car, an electric vehicle now owned by Chrysler LLC. Porteon expects to introduce its first vehicles into the market later this year.

Our strategy? While much of the electric-car industry is in the process of retro-fitting cars with internal combustion engines, Porteon has designed and constructed a car from the chassis up based entirely on the efficiencies offered by an electric vehicle. We do not pretend or aspire to replace gas, diesel, or hybrid vehicles (though we believe that will happen in some cases) but, rather, offer a new, low-cost and environmentally-sound alternative to them.

Regardless of our success or failure, the U.S. will soon see an influx in electric vehicles as fuel prices, urbanization, and climate change effect transportation and state regulation. It is estimated that over 20 manufacturers are in operation or commencing production along with a new influx of imports anticipated from China and Malaysia. Our concern is that unregulated growth could create safety issues and concerns that negatively impact and cause severe damage to a new growth industry that provides real and significant solutions to our country and our planet's key issues.

As a country, we need to be prepared. Below is a synopsis of the issue from our perspective.

## **Background:**

On June 17<sup>th</sup>, 1998 NHTSA published a final ruling on establishing Federal Motor Vehicle Standard No. 500 "Low Speed Vehicle" (63 FR 33193). The ruling came about because people in the late 90's were starting to use golf carts to make short trips for shopping and social and recreational uses.

At the time, NHTSA used information primarily from Palm Springs and Phoenix, Arizona, estimating there were 3 deaths and 222 injuries involving 'on road' golf carts. Over the last ten years there has been a steady increase in the use of Low Speed Vehicles (LSV) across the United States as well as a rapidly growing international market. The vast majority of LSVs are electric and commonly referred to as Neighborhood Electric Vehicles (NEVs). In 1998 there were only two manufacturers of LSV's in the United States.

Recently, the states of Washington and Montana have adopted regulations that increase the speed for NEVs from 25 to 35 mph. This increase is consistent with the information we have received that drivers of NEVs are satisfied with the acceleration of the vehicle but would feel safer on 35 mph roads if they were able to keep up with the prevailing flow of existing traffic and not impede the traffic that is on the road with them. At first glance, this may seem to be increasing the safety risk, yet in fact, with a few additional safety and design features in the vehicles, we believe a 35 mile per hour top speed actually decreases the safety risks, both for the drivers of the NEV and those drivers with whom they share the road.

For this reason, we believe a new classification of vehicles should be created or the existing LSV regulation should be refined to include Medium Speed Vehicles (MSV). This new classification of vehicles would essentially be the same as the LSV regulations with the exception of the top speed of 35 miles per hour and additional vehicle requirements to increase the safety of margin for rollover, stopping, acceleration, and avoidance maneuvering.

The MSV addresses the issues and the advantages created by the LSV market, while providing a better fit with the existing road structure in the United States in urban settings. The application the LSV vehicle has expanded to include residential usage, city commercial use, (delivery vehicles, maintenance, etc.) security and law enforcement, taxi services, military bases, inner city, and large scale master planned communities.

To better understand the impact of these new markets and the roads consumers use most often, two communities were reviewed, Anaheim and Pasadena in California, which is the state with the highest NEV usage and can be considered the typical application for NEV motorists.

## **Roadway Classifications**

Roadways are classified in a hierarchical system to reflect the type of service and anticipated volume of traffic and speed of the roadway. Three sources were consulted in describing the functions, use, and typical speed limits of public roads in urban area settings including:

- United States Department of Transportation (USDOT), Federal Highway Administration (FHWA)<sup>1</sup>
- Institute of Transportation Engineers (ITE)<sup>2</sup>

<sup>1</sup>USDOT/FHWA Website – January 2002

<sup>2</sup>Institute of Transportation Engineers, *Manual of Transportation Engineering Studies*, 1994

- American Associations of State Highway and Transportation Officials (AASHTO)<sup>3</sup>

Road Classifications break down into the following:

#### *Arterials*

Arterial roads provide the highest level of mobility, at the highest speed, for long uninterrupted travel. Arterials generally have higher design standards than other roads, often with multiple lanes and some degree of access control. Arterials serve as the principal elements of the roadway network servicing through traffic flow. Major and arterials are generally posted at 30 to 50 miles per hour speed limits.<sup>4</sup>

#### *Collector*

Collector roadways assemble traffic from local streets in residential neighborhoods and distributed trips to and from arterials. Collectors are designed for travel at lower speeds and for shorter distances. These are roadways used mainly for traffic movements within residential, commercial, and industrial areas. Collector roadways are typically posted with speed limits of 25 to 30 miles per hour.

#### *Local*

Local roads represent the largest element in public road network in terms of mileage. Local roads provide basic access between residential and commercial properties, connecting with higher order highways. Local roadways do not carry through traffic. Local roadways are generally posted for 25 miles per hour speed limits.

### **Case Studies**

The Case studies below illustrate the type of roads that are used for NEVs that have a 35 mile per hour posted speed limit.

#### **Anaheim, California**

Anaheim, California, located in the northerly portion of Orange County, California, is the tenth largest city in California with a population of approximately 330,000. NEVs are used in three Anaheim neighborhoods; Paseo Village, Park, and Tree Power as shown in [Figure 1](#). Major destinations in Anaheim include the following: Disneyland, Anaheim Convention Center, Anaheim Pond, Edison Field, California Adventure, Anaheim Plaza, and Downtown Disney, as well as government buildings such as City Hall, libraries, post offices, etc. The locations of major Anaheim destinations are also displayed in [Figure 1](#).

Three types of arterial roadways are provided in the City of Anaheim: major, primary, and secondary in addition to local and collector type roadways. The designations for the Anaheim arterial roadways are based on the roadway and right-of way Vista and right-of-way widths, which in turn affect the traffic volumes and speed limits on the roadways. In general, the City of Anaheim local roadways are posted with 25 miles per hour speed limits, collector roadways are posted for 30 miles per hour speed limits and arterials are posted for 35 to 45 miles per hour speed limits.

The importance of increasing the current 25 mile per hour speed limit to 35 mile per hour for medium speed vehicles is illustrated in [Figure 2](#), which highlights Anaheim roadways with speed limits higher than 25 miles per hour. Local, collector, and arterial roadways with speed limits of 35 miles per hour or lower, shown in black, provide for travel between residential areas and destinations for daily trips such as shopping centers, grocery stores, etc. and major venues, such as civic centers and entertainment, which

<sup>3</sup> American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, 2000

<sup>4</sup> References to typical speed limits is based on conditions in several Southern California local jurisdictions (e.g., City of Anaheim, City of Los Angeles, City of Pasadena, etc.).

has the prime usage for the NEV's. Use of these streets by medium speed vehicles would ensure that traffic is not blocked or hindered by the low speed vehicles and would create a more cohesive traffic environment for mixed use vehicles.

### Pasadena, California

Pasadena, located in the foothills of the San Gabriel Mountains in Los Angeles County, California, has a population of approximately 140,000. Major destinations in Pasadena include cultural, education, civic, recreation, and commercial venues including Huntington Library and Gardens, Norton Simon Museum, California Institute of Technology, Huntington Hospital, Rose Bowl, Old Pasadena, Paseo Colorado, and Pasadena City College, as well as City Hall and other civic center land uses. The locations of major Pasadena destinations are presented in Figure 3. NEVs are being used by the City of Pasadena's Parking Enforcement staff.

Principal and minor roadways exist in Pasadena in addition to local and collector type roadways. Designations for the Pasadena arterial roadways are primarily based on the roadway and right-of-way widths, but are also based on the City's mobility plan, which includes a hierarchy of mobility corridors. In general, City of Pasadena local roadways are posted for 25 miles per hour speed limits, collector roadways are posted for 25 to 30 miles per hour speed limits, and arterials are posted for 30 to 50 miles per hour speed limits (Source: City of Pasadena Speed Zone Map).

The importance of the current 35 miles per hour speed limit designation for MSVs is illustrated in Figure 3, which highlights Pasadena roadways with speed limits above 35 miles per hour.

Local, collector, and arterial roadways with speed limits of 35 miles per hour or lower provide extensive linkages between residential areas and major destinations, as well as typical destinations such as shopping centers, grocery stores, etc., that MSV drivers may wish to patronize. Figure 4 illustrates the roadways above 25 miles per hour and represents the majority of roadways in Pasadena for short trip transportation with key major destinations, typical destinations, and travel throughout Pasadena. City parking enforcement staff conduct most of their business on the streets in commercial areas of the city which are posted with a 30 miles per hour speed limit.

### Conclusion

The NEV market will continue to grow exponentially as the economic and political pressures related to population growth, urbanization, climate change, oil dependency, and rising fuel costs create a need for alternative transportation. The NEV has already proven itself as an inexpensive, alternative mode of transportation that is primarily used for specific trips and destinations. These destinations are normally located in areas that require traveling on roads over 25 miles per hour and mixing with higher speed vehicles. The disparity in speed could create a hazardous situation for either the driver or other vehicles where NEVs could impede traffic. A MSV would provide the next logical step in completing a continuum of mobility options for high density environments.

**Recommendations:**

Develop a medium speed vehicle classification that addresses the key concerns created by the LSV 500.

Vehicle Characteristics	Specifications	Comments
Maximum Speed	Maintain 35 mph on level grade	Maintain flow of traffic
Minimum Speed	Maintain 30 mph up an 8% grade	Maintain flow of traffic
Width	A minimum of 55 inches	Roll over stability
Suspension	Coil over shock	Roll over stability
Brakes	4 wheel hydraulic disc or drum	Braking
Seat belts	3 point automotive	Improved crash protection

\*in addition to Standard LSV requirements

Additional testing of the vehicles should also be considered, including crush zones with a 2.5 mph 'no damage' requirement. A full frontal crash should be required to meet safety standards between 17-18 mph, which is a derivative of full speed automobiles being crash tested at 35 mph.

Our nation is at an economic and environmental crossroad (so to speak) and I believe that now is the time to conceive and implement regulations that will guide the United States well into this Century.

Once again, both personally and on behalf of Porteon, I avail myself to you and NHTSA staff.

Respectfully,

Ken Montler  
CEO  
Porteon Electric Vehicles, Inc.



KM/bh  
cc: Ari Scott, Gayle Dalrymple